

Notice of Allowability**Application No.**

10/558,886

Applicant(s)

KOBAYASHI, HIROTO

Examiner

MICHAEL P. FERGUSON

Art Unit

3679

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09 December 2009 amendment, 18 February 2010 interview.
2. ☒ The allowed claim(s) is/are 2,3,8 and 18.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20100218
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

/Michael P. Ferguson/
Primary Examiner, Art Unit 3679

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael D. Gagliano on February 18, 2010.

The application has been amended as follows:

In the specification, on page 6, in line 8, deleted "cylindrical member 4 is screwed preferably with a trapezoidal screw" and replaced with --hollow cylindrical member 4 comprising an internally threaded inner surface preferably threaded with a trapezoidal thread--.

In the specification, on page 6, in line 15, after "rotatable around" deleted "the respective" and replaced with --respective rotation members defining--.

In the specification, on page 6, in line 21, after "shaft 2" inserted --comprising an externally threaded peripheral surface--.

In the specification, on page 6, in line 24, after "and has" deleted "a" and replaced with --an abrasion-resistant--.

Canceled claims 1, 4-7 and 9-17.

In claim 2, in lines 1-2, deleted "A connection device for a tire building drum according to claim 1, wherein the drive shaft and the cylindrical member are screwed with trapezoidal screws" and replaced with --The connection

assembly according to claim 18, wherein the head flange and the cylindrical member comprise trapezoidal threads--.

In claim 3, in lines 1-2, deleted "A connection device for a tire-building drum according to claim 1, wherein a high-hardness metal plate is disposed at least at a portion of said" and replaced with --The connection assembly according to claim 18, wherein an abrasion-resistant metal plate is disposed at least at a portion of said head--.

In claim 8, in lines 1-2, deleted "A connection device for a tire-building drum according to claim 2, wherein a high-hardness metal plate is disposed at least at a portion of said" and replaced with --The connection assembly according to claim 18, wherein an abrasion-resistant metal plate is disposed at least at a portion of said head--.

Inserted new claim 18 as follows:

--18. (New) A connection assembly for connecting a center shaft of a tire building drum to a drive shaft of a building machine body side, the assembly comprising:

a drive shaft comprising a drive shaft end portion nonrotatably connected to a head flange having an externally threaded peripheral surface;

a center shaft comprising a center shaft end portion nonrotatably connected to a center shaft flange having a radially extending clamping face facing away from the head shaft and having a plurality of cutouts

circumferentially spaced around and axially extending through a peripheral edge of the center shaft flange;

a hollow cylindrical member having an inner surface internally threaded at one end and a plurality of circumferentially spaced cam rollers disposed at the other end of the cylindrical member, each of the plurality of cam rollers being rotatable about a respective rotation member extending radially inward from the inner surface and defining a respective center axis of the cam roller;

wherein the internal thread of the cylindrical member is threaded onto the external thread of the center shaft flange such that the cylindrical member is rotatably tightened about a rotation axis of the cylindrical member between a locked position and an unlocked position; and

a plurality of form locking members comprising a plurality of radially extending detent keys circumferentially disposed on a radially extending end face of one of the center shaft flange and the head flange and a plurality of mating radially extending grooves circumferentially disposed on a radially extending end face of the other of the center shaft flange and the head flange;

wherein in the unlocked position, the end faces of the center shaft flange and the head flange are brought into axially aligned contact such that the detent keys nonrotatably engage the mating grooves and the center shaft flange is axially received within the cylindrical member such

that each cam roller is circumferentially aligned with and axially passes through a respective cutout; and

wherein in the locked position, the cylindrical member is rotatably tightened about the rotation axis such that the cam rollers are circumferentially aligned with and apply a clamping force to the clamping face of the center shaft flange to clamp the head flange to the center shaft flange such that torque is transmitted from the drive shaft to the center shaft. --.

2. The following is an examiner's statement of reasons for allowance:

Druschel et al. (US 2,862,728) disclose the claimed connection assembly with the exception of the center shaft flange having a plurality of cutouts circumferentially spaced around and axially extending through a peripheral edge of the center shaft flange; each of the plurality of cam rollers being rotatable about a respective rotation member extending radially inward from the inner surface and defining a respective center axis of the cam roller; wherein in the unlocked position, the end faces of the center shaft flange and the head flange are brought into axially aligned contact such that each cam roller is circumferentially aligned with and axially passes through a respective cutout; and wherein in the locked position, the cylindrical member is rotatably tightened about the rotation axis such that the cam rollers are circumferentially aligned with and apply a clamping force to the clamping face of the center shaft flange to clamp

the head flange to the center shaft flange such that torque is transmitted from the drive shaft to the center shaft.

There is no teaching or suggestion, absent the applicant's own disclosure, for one having ordinary skill in the art at the time the invention was made to modify the assembly disclosed by Druschel et al. to have the above mentioned elemental features. Furthermore, such modifications would yield unexpected and unpredictable results.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL P. FERGUSON whose telephone number is (571)272-7081. The examiner can normally be reached on M-F (6:30am-3:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571)272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MPF
02/22/10

/Michael P. Ferguson/
Primary Examiner, Art Unit 3679